Amendments to the Claims:

This listing of claims will replace the prior version of claims in the application:

Listing of Claims:

Claims 1-25 (original)

Claim 26 (currently amended): ~~A~~ The method ~~of achieving high spectral efficiency through proper~~ as recited in Claim 22 further comprising at least one pulse shaping filter minimizing power spectral sidelobe regrowth in the presence of distortion caused by the distortion of at least one saturated power amplifier or up-converter for communications systems employing phase shift keying.

Claim 27 (currently amended): ~~A~~ The system as recited in Claim 1 further comprising a ~~linear~~ demodulator to demodulate the received signal in the presence of both distortion and noise, the ~~linear~~ demodulator comprising:

a first down-converter to convert the received signal in the in-phase channel to baseband;

a second down-converter to convert the received signal in the quadrature channel to baseband;

a sampling circuit to sample the baseband signals in both the in-phase channel and the quadrature channel;

an analog-to-digital converter to convert the sampled baseband signals to digital signals;

a first finite impulse response filter matched to the shaping filter for the in-phase channel in the transmitter, the filter performs low-pass filtering for the samples in the in-phase channel;

a second finite impulse response filter matched to the shaping filter for the quadrature channel in the transmitter, the filter performs low-pass filtering for the samples in the quadrature channel;

a signal detector to detect the incoming signal using the matched filter output;

a parameter estimator to estimate the symbol timing, carrier frequency offset and carrier phase using the matched filter output;

a tracking loop to track the carrier frequency, carrier phase and the symbol timing;

a decoder to make decisions on the received symbols using the tracking loop output.

Claim 28 (currently amended): ~~A~~ The system as recited in Claim 1 further comprising a method of reducing linear range for said power amplifier, said up-converter, said radio terminal, simplifying ~~the~~ design, development, manufacturing and testing of said power amplifier, said up-converter, said radio terminal~~s~~ and communications terminal~~s~~ for communications systems employing phase shift keying, and reducing number of stages for linearity in said power amplifier, said up-converter and said radio terminal.

Claim 29 (currently amended): ~~A~~ The system as recited in Claim 1 further comprising a method of increasing ~~the~~ reliability of said power amplifier~~s~~, said radio terminal~~s~~ and communications terminal~~s~~ for communications systems employing phase shift keying.

Claim 30 (currently amended): ~~A~~ The system as recited in Claim 1 further comprising a method of reducing cost of all of the said power amplifier[[cost]], said up-converter[[cost]], and said radio ~~cost and~~ terminal ~~cost~~ for communications systems employing phase shift keying.

Claim 31 (currently amended): ~~A~~ The system as recited in Claim 1 further comprising a method of increasing ~~the~~ battery life for said communication terminal~~s~~ operated on battery.

Claim 32 (currently amended): A method of reducing ~~the~~ power consumption in a transmitter~~s~~ for communications systems employing phase shift keying[[.]] comprising characterized by a modulator reducing envelope variation of its output signal, the said modulator output signal driving a power amplifier into saturation region, the said power amplifier draining current from a power supply, the said modulator and power amplifier jointly reducing the said current drainage to said power supply, the said power amplifier providing high DC-to-AC power conversion efficiency.